User Guide

Venus
Mobile Cart Computer

Rev.04
April 2014

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Packing List

Before you begin installing your Mobile Cart Computer, please make sure that the following items have been shipped:

- VENUS191/221 Mobile Cart Computer
- Medical power adaptor 150W/24V (Optional)
- Lithium batteries x2
- 2-Slot / 6-Slot battery charger (Optional)
- Windows Embedded compact 7 (Optional)
  Windows Embedded standard 7 (Optional)

If any of these items are missing or damaged, you should contact your distributor or sales representative immediately.

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Safety & Warranty

1. Read these safety instructions carefully.
2. Keep this user's manual for later reference.
3. Disconnect this equipment from any AC outlet before cleaning. Do not use liquid or spray detergents for cleaning. Use a damp cloth.
4. For pluggable equipment, the power outlet must be installed near the equipment and must be easily accessible.
5. Keep this equipment away from humidity.
6. Put this equipment on a reliable surface during installation. Dropping it or letting it fall could cause damage.
7. The openings on the enclosure are for air convection. Protect the equipment from overheating. DO NOT COVER THE OPENINGS.
8. **Make sure the voltage of the power source is correct before connecting the equipment to the power outlet.**
9. Position the power cord so that people cannot step on it. Do not place anything over the power cord.
10. All cautions and warnings on the equipment should be noted.
11. If the equipment is not used for a long time, disconnect it from the power source to avoid damage by transient over-voltage.
12. Never pour any liquid into an opening. This could cause fire or electrical shock.
13. Never open the equipment. For safety reasons, only qualified

Service personnel should open the equipment.

14. If any of the following situations arises, get the equipment checked by service personnel:

a. The power cord or plug is damaged.
b. Liquid has penetrated into the equipment.
c. The equipment has been exposed to moisture.
d. The equipment does not work well, or you cannot get it to work according to the user manual.
e. The equipment has been dropped and damaged.
f. The equipment has obvious signs of breakage.

15. DO NOT LEAVE THIS EQUIPMENT IN AN UNCONTROLLED ENVIRONMENT WHERE THE STORAGE TEMPERATURE IS BELOW -20° C (-4°F) OR ABOVE 60° C (140° F). IT MAY DAMAGE THE EQUIPMENT.

16. External equipment intended for connection to signal input/output or other connectors, shall comply with relevant UL / IEC standard (e.g. UL 1950 for IT equipment and ANSI/AAMI ES 60601-1: 2005 AND CAN/CSA-C22.2 No. 60601-1:08 / IEC 60601 series for systems – shall comply with the standard IEC 60601-1-1, Safety requirements for medical electrical systems. Equipment not complying with UL 60601-1 shall be kept outside the patient environment, as defined in the standard.

Caution:

It may cause the danger of explosion if battery is incorrectly replaced. Replace only with same or equivalent type recommended by the manufacturer.

Classification

1. Degree of production against electric shock: not classified
2. Degree of protection against the ingress of water: Front IP65 and body IPX1
3. Mode of operation: Continuous
4. Type of protection against electric shock: Class I equipment
5. No Applied Part, No AP/APG

FCC

This device complies with Part 18 FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received including interference that may cause undesired operation.

UL Module Description

	VENUS-191 / 221 modules are developed to suitable for the Classification Mark requirement

Safety Symbol Description

The following safety symbols are the further explanations for your reference.

	*Medical equipment with respect to electric shock, fire and mechanical hazards only in accordance with **ANSI/AAMI ES 60601-1: 2005 AND CAN/CSA-C22.2 No. 60601-1:08***
	Attention, consult ACCOMPANYING DOCUMENTS.
	*Stand-by **(Green light)***
	Ground wire *Protective Ground wire.*
	Medical equipment with respect to electric shock, fire and mechanical hazards only in accordance with UL 60601-1, and CAN/CSA C22.2 NO. 601.1

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Chapter

1

General Information

1.1 Introduction

The VENUS-191/221 Mobile cart computer are based on Intel® Atom™ N2800 Dual Core processor, It accommodates one 2.5" SATAII SSD and 4GB DDRIII SODIMM.

The VENUS series both offer 4:3 (19inch) and 16:9 (22 inch) wide range size with high brightness backlight LCD display with high resolutions.

Fan-less and no vent design, both unique features of VENUS-191/ VENUS-221 reduces the risk of cross-infection dramatically and also makes daily cleaning quickly and safe. Front IP65 and body IPX1 design provide the most reliable proof against water leakage. Germs have no corners to hide in while cleaning because of smooth and seamless surface design.

VENUS-191/221 owns side mount two USB 3.0 ports, and a smart card reader to support high speed data transfer and ID check by smart card reader.

Dual hot swappable lithium-ion battery innovation design provides stable 125W power to system for standing 6 hours of running, non-stop 24/7 support service in hospital. The VENUS-191/221 is definitely your perfect choices.

1.2 Feature

- Intel® N2800 1.86GHz Dual Core Processor
- 19” 1280 x1024 / 22” 1366 x 768 LCD with LED backlight.
- Dual hot swappable lithium batteries, support non-stop operation.
- Fully cable-less, easy deployment
- Smart Battery management system.
- Ergonomic illumination reading light bar
- Both of LED indicators reminding the state of charge
- Fully Cable-less mobile design, easy deployment
- 5 Smart Function Keys
- 4KV Medical isolated USB/COM/LAN ports
- High Speed USB 3.0 Ports
- Water-proof :IP65 Front panel, Rear IPX1
- Light weight design with Magnesium / Aluminum alloy rear cover
- Low power solution with fan-less design make VENUS more reliable..
- Total certification solution for medical devices of EN60601-1 standard.

1.3 Specification

Main Specifications

Processor	Intel® N2800 1.86GHz Dual Core Processor
System Memory	4GB DDR3 SODIMM
Chipset	NM10
OS Support	Windows 7 Professional (32 bits)
Expansion Interface	Smart Card Reader RFID (Optional)
Storage Disk Drive	2.5 inch SATA II 128GB SSD (Optional)
Wireless Communication	802.11 a/b/g/n (Optional) 802.11 a/b/g/n +Blue tooth 4.0 (Optional)
Speaker	2W x2
Power Requirement	Input: 100~240 V AC, 1.9A max. @ 50 ~ 60 Hz Output: DC24V, 6.25A,150W Max

Display

Display Size	19 inch / 22inch
Resolution	1280 x1024 / 1366 x768
Maximum Colors	16.7M
Luminance	250 nits
View Angle	170 ° (H)/ 160 ° V ; 178 ° (H)/ 178 ° V
Contrast Radio	1000:1 / 3000:1
Back Light Life Time	30,000 Hours
Touch Screen	5-wire Resistive Touch Screen

I/O

USB	4KV Isolated USB2.0 x1, USB2.0 x4, USB3.0 x2
Series Port	4KV Isolated RS-232 x2
Ethernet	4KV Isolated Gigabit LAN x1
Video Out	Display Port x1
Audio	Mic-in, Line out

Smart Battery Pack

Battery Type	3S2P Lithium-ion battery
Battery Capacity	5800 mAh
Battery Output Voltage	10.8V
Battery Charge Time	2 Hours at 85% 3 Hours at 100% *Rate based on recharge time with VENUS series battery bank.
Battery Run Time	6 Hours **Actual runtime might depend on several factors such as battery lifecycle, system usage loading and power supply model. Runtime is based on continuous use of system with two fully charge batteries at 125Watts.

sBMS

Multi-Language support	Traditional / Simplified Chinese , English , Italian, German , Spanish….etc.
Reminding alarm	Low capacity , High temperature
Battery function	Battery capacity reminder setting, Battery information, Multi-Language selection, Password control, Default setting

Mechanical and Environmental

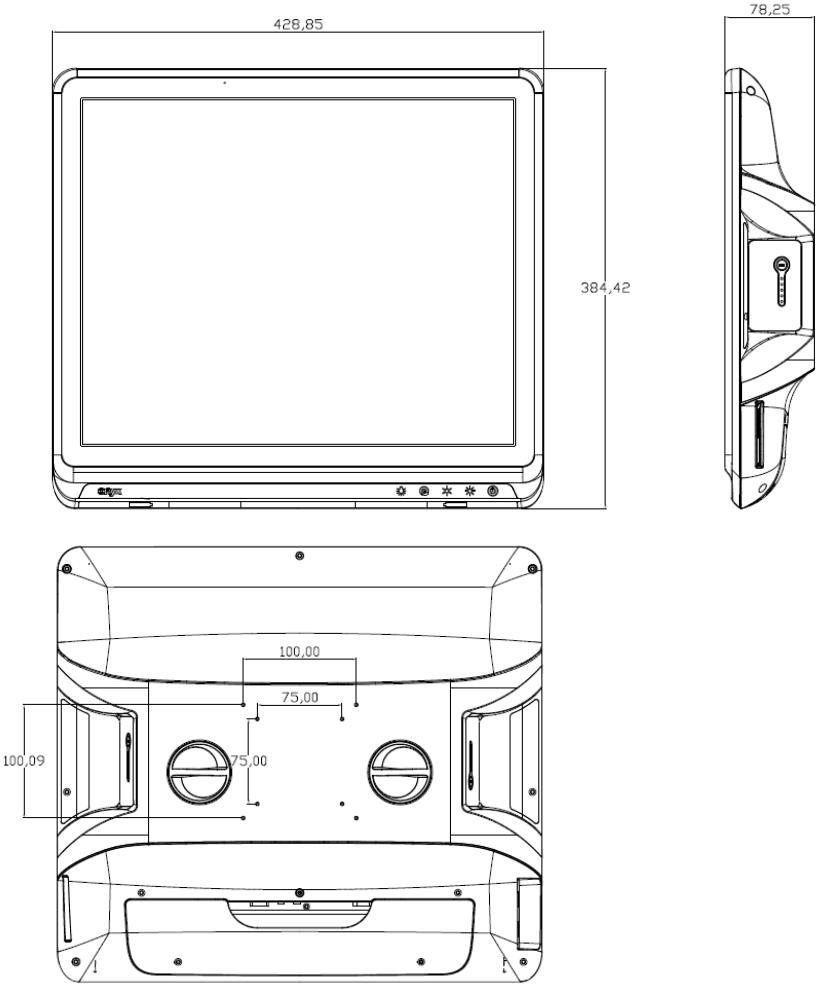
sBMS Tool	Multi-Language support, Battery capacity reminder, Password control
IP Rating	Front panel IP65, Rear IPX1
System cooling	Fan-less Cooling
Operating Temperature	0℃ ~40℃ (32°F~104°F)
Storage Temperature	-20℃ ~40℃ (4°F~104°F)
Mounting	VESA 75/100 mm Clamp type
Net Weight	12.13 lb (5.5Kg) / 13.85 lb (6.3Kg)
Certification	CE/FCC Class B, EN/UL60601-1,PSE,RCM

Note:

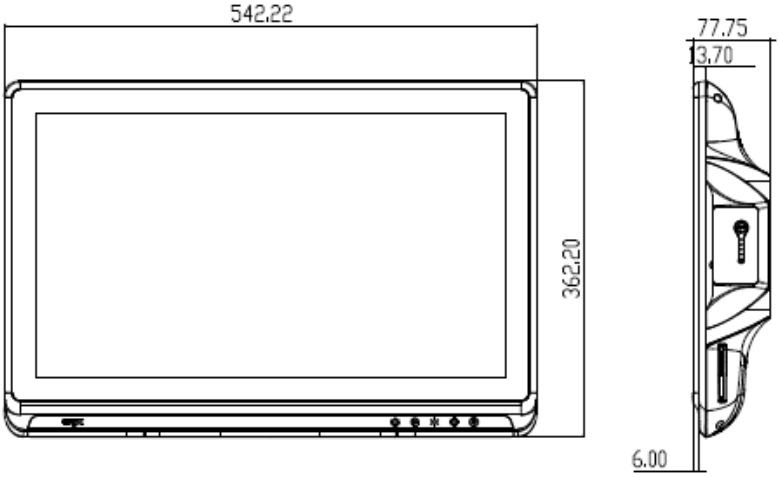
All ONYX LCD products are manufactured with High precision technology. However, there are a small number of defective pixels in all LCD panels that are not able to change color. This is a normal occurrence for all LCD displays from all manufacturers and should not be noticeable or objectionable under normal operation. All LCD panels are qualified for industry standard conditions in the following: total 7 dead pixels on a screen or if there are 3 within 1 inch square area of each other on the display.

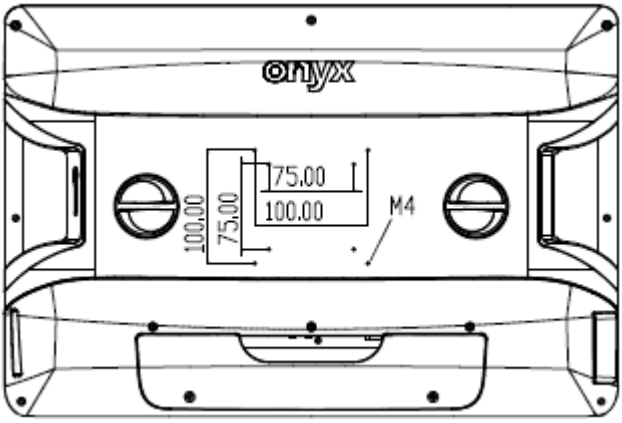
1.4 Dimension

VENUS-191



VENUS-221





Chapter

2

Hardware Installation

2.1 Safety Precautions

Always completely disconnect the power cord from your board whenever you are working on it. Do not make connections while the power is on, because a sudden rush of power can damage sensitive electronic components.

Always ground yourself to remove any static charge before touching the board. Modern electronic devices are very sensitive to static electric charges. Use a grounding wrist strap at all times. Place all electronic components on a static-dissipative surface or in a static-shielded bag when they are not in the chassis

2.2 Quick Tour of the VENUS-191 / 221

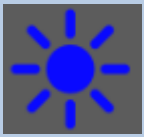
Before you start to set up the VENUS-191 / 221 take a moment to become familiar with the locations and purposes of the controls, drives, connections and ports, which are illustrated in the figures below.

When you place the VENUS-191 /221 upright on the desktop, its front panel appears as shown in Picture 2-2-1 and 2-2-2.

Picture 2-2-1: Front View of the VENUS-191

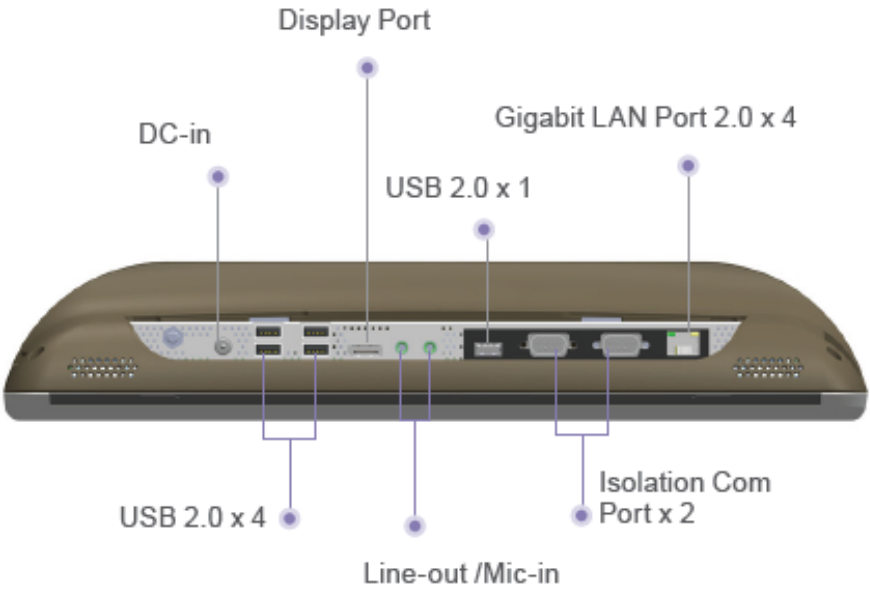
Picture 2-2-2: Front View of the VENUS-221

5 Smart Program Keys

ICON	VENUS-191/ VENUS-221
	One touch for reading light on/off
	One touch for screen on/off
	One touch for LCD brightness down Continue press fall down to minimum
	One touch for LCD brightness up Continue press rising up to maximum
	One touch for system enter sleeping mode, Long press 4 seconds to shut-down the system.

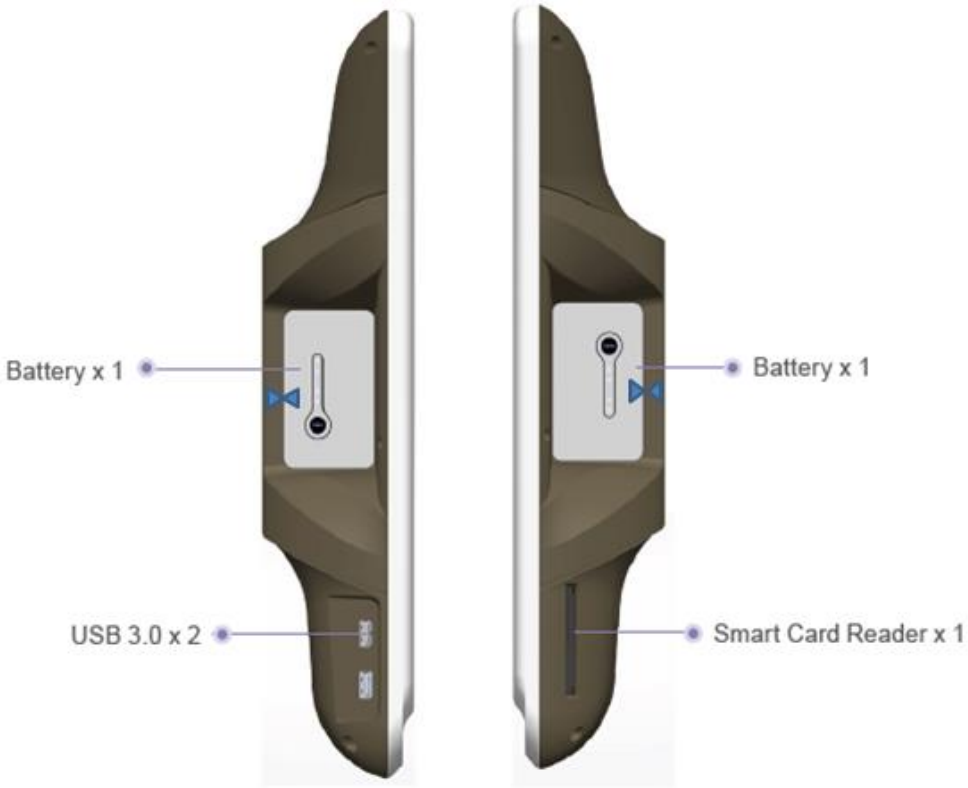
When you turn the Mobile Cart Computer around and look at its rear cover, the sunken I/O section is at the bottom of the station, as shown in Picture 2-2-3 . (The I/O section includes various I/O ports, including a serial port, Display Port, the Ethernet ports, USB ports, the microphone jack, and so on.) The Cart Mobile Computer integrates WLAN function by using Mini Card.

VENUS-191 / 221



Picture 2-2-3: back view of the VENUS-191 /221

When you turn the Mobile Cart Computer around and look at its right/left side, two USB 3.0 ports, the smart card reader and Lithium Battery are as shown in Picture 2-2-4.



Picture 2-2-4: Side view of the VENUS-191/221

2.3 Turn On and Boot up into Windows OS

This section is for Windows operating system only. If you are installing a different operating system, please contact your vendor for installation details.

Before you start to install OS, you need to check the built-in battery level light to make sure the light is not purple color.

Your VENUS will begin loading Windows OS once you push the power button to turn power on. After less than one minute, Windows desktop screen will appear.

You can select the programs from the start menu in the left-down corner of the desktop screen.

2.4 Turn off

Turning off VENUS properly is important for system reliability. There are two ways to turn off the system.

1. On the start menu, click “Shut down” and select “OK”
2. Push the power button and then the system will shut down automatically

Chapter

3

Driver Installation

3.1 Driver installation

There are several installation ways depending on the driver package under different Operating Systems.

Please follow the sequence below to install the drivers:

Step 1 – Install Chipset Driver

Step 2 – Install VGA Driver

Step 3 – Install LAN Driver

Step 4 – Install Audio Driver

Step 5 – USB 3.0 Driver

Step 6 – WIFI Driver (Optional)

Step 7 – RFID Driver(Optional)

Step 8 – Touch Panel Driver

STEP 9- Light Sensor

3.2 VENUS Smart Battery Management System introduction (patent pending)

In this section you will find the step of setup and installation and recommendations for sBMS. Carefully read all instructions prior to setting up your sBMS.

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Other important information

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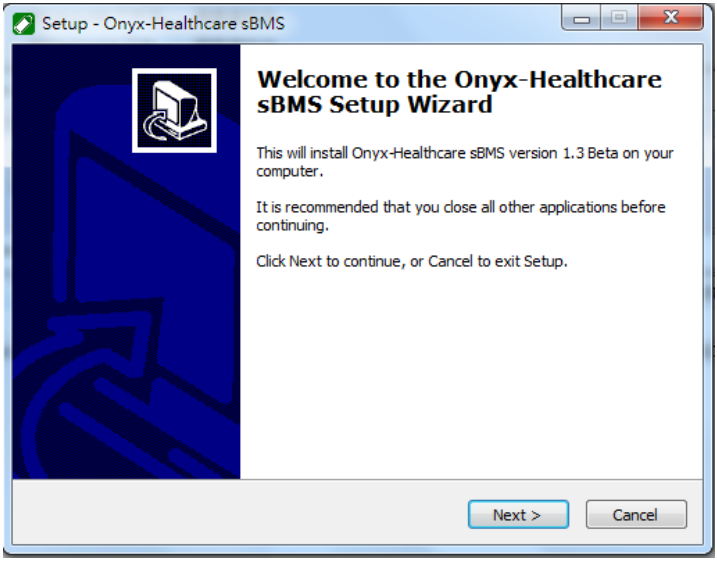
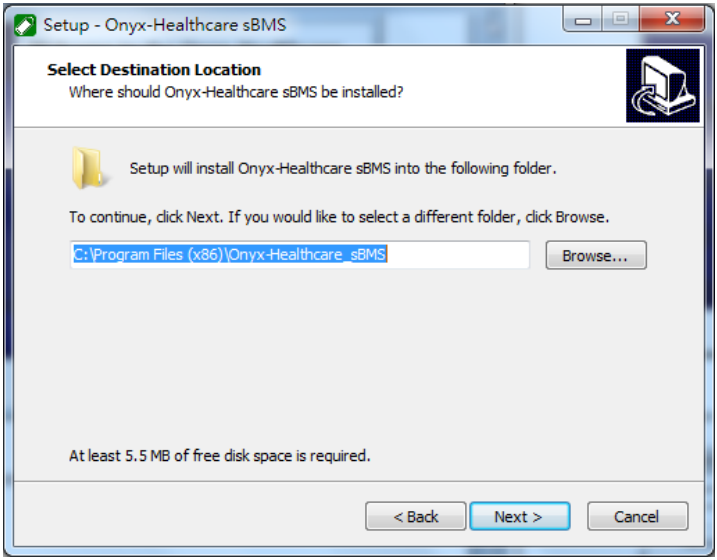
Installing the sBMS control software

Run the Setup exe. Application in the installer folder on your Setup CD or driver also can be found on our website http://www.onyx-healthcare.com/ServicesSupport.php

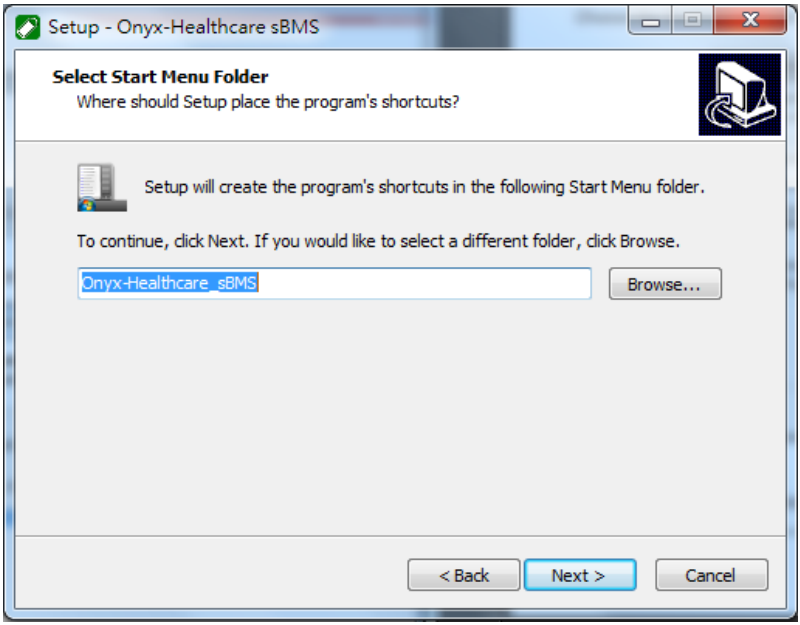
Click “Next” at the Welcome to the Onyx-Healthcare SBMS setup wizard.


Setup - Onyx-Healthcare sBMS
Welcome to the Onyx-Healthcare sBMS Setup Wizard
This will install Onyx-Healthcare sBMS version 1.3 Beta on your computer.
It is recommended that you close all other applications before continuing.
Click Next to continue, or Cancel to exit Setup.
Next >
Cancel

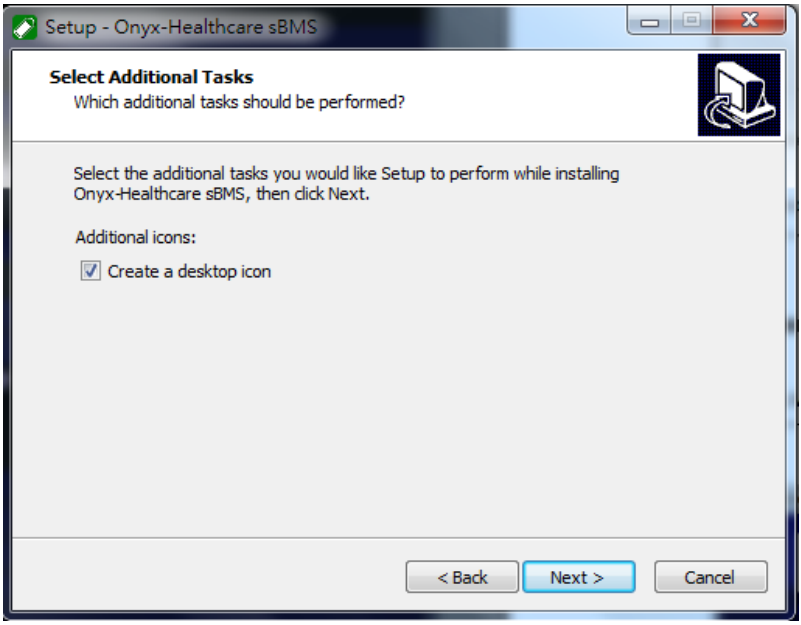
Choose the destination folder where the application will be installed.


Setup - Onyx-Healthcare sBMS
Select Destination Location
Where should Onyx-Healthcare sBMS be installed?
Setup will install Onyx-Healthcare sBMS into the following folder.
To continue, click Next. If you would like to select a different folder, click Browse.
C:\Program Files (x86)\Onyx-Healthcare_sBMS
Browse...
At least 5.5 MB of free disk space is required.
< Back
Next >
Cancel

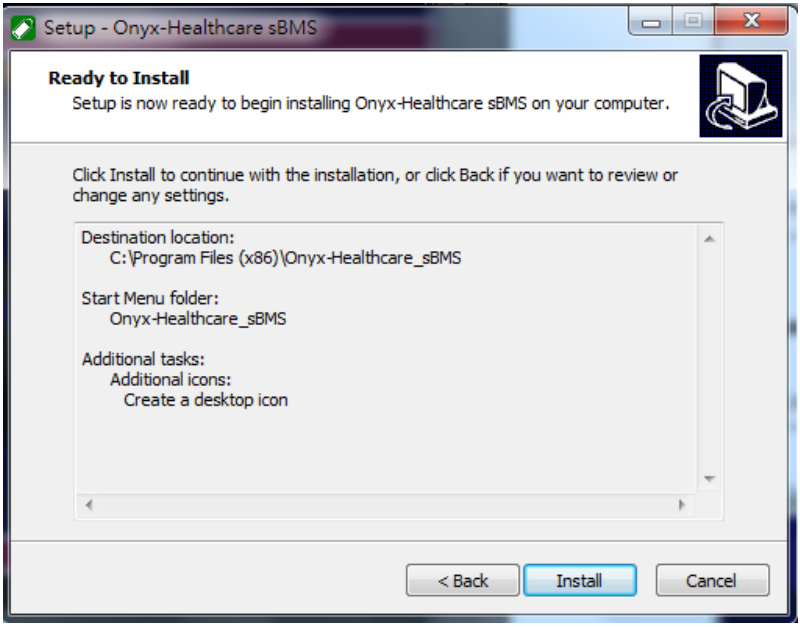
Select start menu folder and click the “Next”


Setup - Onyx-Healthcare sBMS
Select Start Menu Folder
Where should Setup place the program's shortcuts?
Setup will create the program's shortcuts in the following Start Menu folder.
To continue, click Next. If you would like to select a different folder, click Browse.
Onyx-Healthcare_sBMS
Browse...
< Back
Next >
Cancel

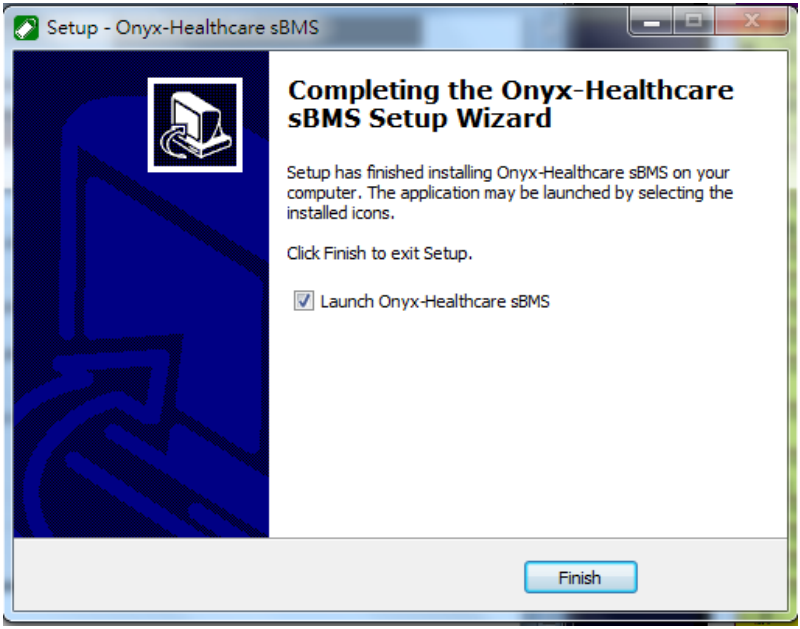
Select additional tasks if you would like to create an icon on the screen.


Setup - Onyx-Healthcare sBMS
Select Additional Tasks
Which additional tasks should be performed?
Select the additional tasks you would like Setup to perform while installing Onyx-Healthcare sBMS, then click Next.
Additional icons:
Create a desktop icon
< Back
Next >
Cancel

Click “Install” for running installation process.


Setup - Onyx-Healthcare sBMS
Ready to Install
Setup is now ready to begin installing Onyx-Healthcare sBMS on your computer.
Click Install to continue with the installation, or click Back if you want to review or change any settings.
Destination location:
C:\Program Files (x86)\Onyx-Healthcare_sBMS
Start Menu folder:
Onyx-Healthcare_sBMS
Additional tasks:
Additional icons:
Create a desktop icon
< Back
Install
Cancel

You have now successfully installed the software. Click the “Finich” button to exit the installation.


Setup - Onyx-Healthcare sBMS
Completing the Onyx-Healthcare sBMS Setup Wizard
Setup has finished installing Onyx-Healthcare sBMS on your computer. The application may be launched by selecting the installed icons.
Click Finish to exit Setup.
Launch Onyx-Healthcare sBMS
Finish

You can run Onyx-Healthcare sBMS control software now.

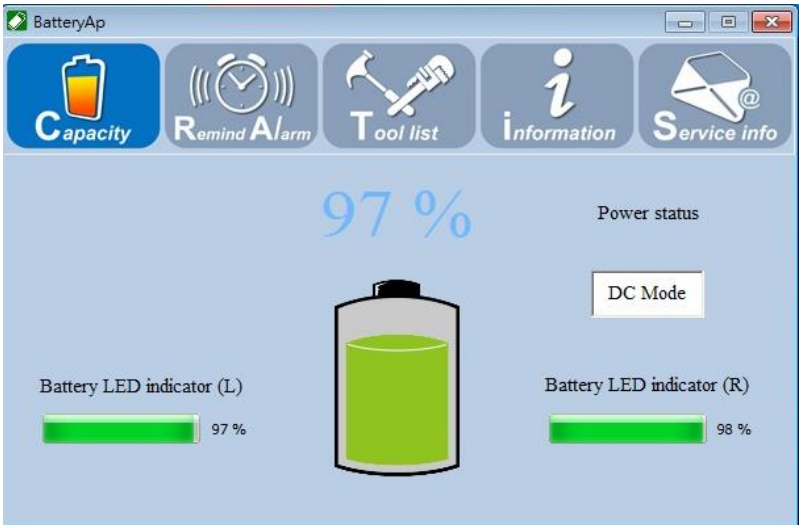
Explanation of symbols

Symbol	Function	Feature
	Battery Capacity	-Battery bar displaying 3 colors of green, yellow and purple. -Independent design manages each battery capacity separately.
	Remind alarm setting	-Two primary levels protection of reminder alarm, pop-up on the screen or voice alarm sounds to warming end user the battery getting lower capacity need to change another fully-charged battery soon.
	Tool list	-Multi-language options. -Default setting
	Battery information	IT manager can gets the detailed management information about both of batteries manufacturing date, life cycle, consumption and temperature…etc.

Service information

ONYX contact information

SBMS control panel



Power status:

AC mode means switch the powered from power adaptor,

DC mode means switch the powered from lithium batteries.

Battery bar : Average capacity of two batteries.

-Green: average capacity at 40% or more.

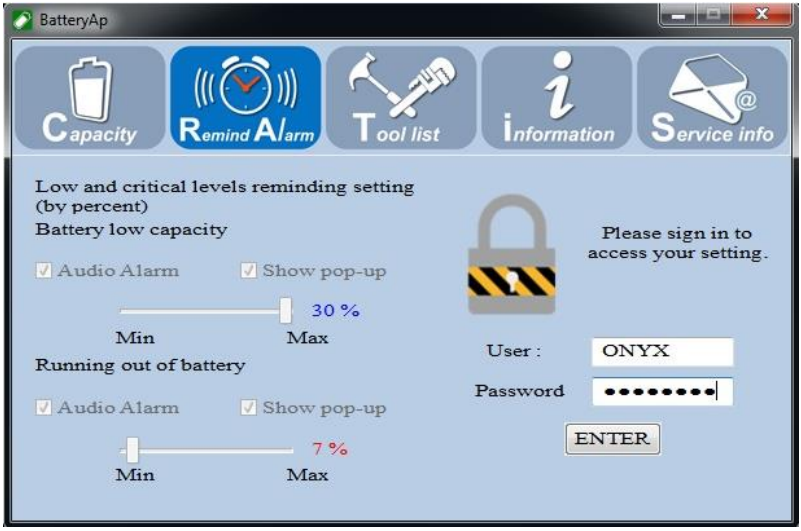
-Yellow: average capacity between 21~39%

-Purple: average capacity less than 20%

Battery LED indicator (L): Single battery capacity on left side.

Battery LED indicator(R): Single battery capacity at right side.

Remind Alarm

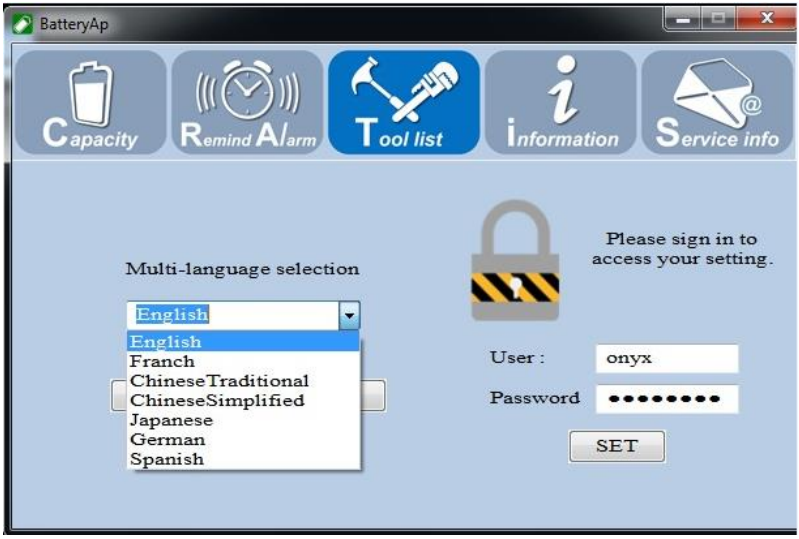


Two primary levels protection of remaining alarm

SBMS provide you flexibility of setting alarm, you can set reminder in two ways to replace the batteries as below table.

Level	Low capacity	Running out of battery
Set-up range	15~30%	7~30%
Warning alarm	Choose you preferred one alternative option for lower capacity remaining.	Both of continue 2 short beeps sound and pop-up screen while the battery average capacity lower than the setting limit.

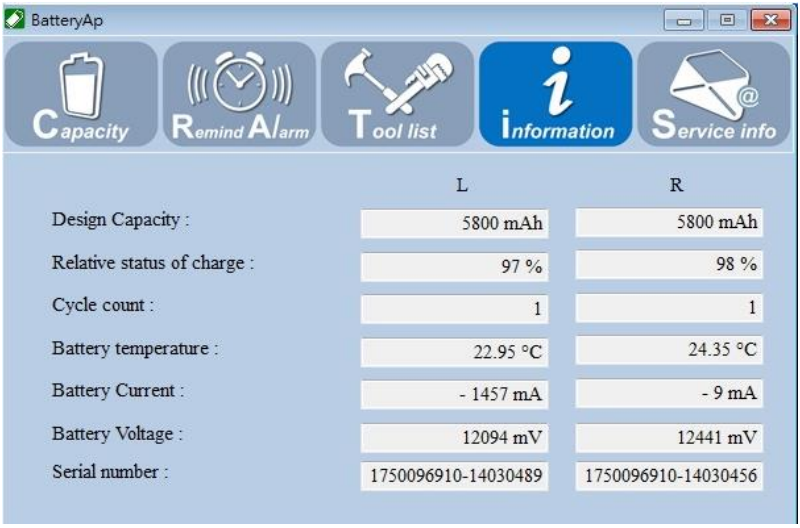
Tool List



This page can show you how to set up and use multiple language input options on your computer.

1. Enter your user name and password to select your favorite language.
2. Save your changes and completed.

Information:



Design capacity: Basically the amount of charge.

Relative status of charge: The direct way to measure the status of charge (SOC) of a lithium-ion battery gives the relative value of its charge.

Cycle count: Once the battery deliver 100% capacity discharge rate equal to 1 cycle count.

Battery temperature: Show the actually battery operating temperature. The range of battery recharge is between 0~45℃, and discharge is between 0~60℃。

Battery current: Show the battery operating range,

Recharge between :0 ~ +2900mA, Discharge between 0 ~ -4000mA

Battery voltage: Normally the battery voltage operating range between 10800mV to 12600mV.

Serials number: Show the digitals of battery serial number.

Appendix

A

Miscellanea

A.1 General Cleaning Tips

You may need the following precautions before you begin to clean the computer. When you clean any single part or component for the computer, please read and understand the details below fully.

1. Never spray or squirt the liquids directly onto any computer component. If you need to clean the device, please rub it with a piece of dry cloth.
2. Be cautious of the tiny removable components when you use a vacuum cleaner to absorb the dirt on the floor.
3. Turn the system off before you start to clean up the component or computer.
4. Never drop the components inside the computer or get circuit board damp or wet.
5. Be cautious of all kinds of cleaning solvents or chemicals when you use it for the sake of cleaning. Some individuals may be allergic to the ingredients.
6. Try not to put any food, drink or cigarette around the computer.

A.2 Cleaning tools

Although many companies have created products to help improve the process of cleaning your computer and peripherals users can also use household items to clean their computers and peripherals. Below is a listing of items you may need or want to use while cleaning your computer or computer peripherals.

Keep in mind that some components in your computer may only be able to be cleaned using a product designed for cleaning that component, if this is the case it will be mentioned in the cleaning tips.

- **Cloth** - A piece of cloth is the best tool to use when rubbing up a component. Although paper towels or tissues can be used on most hardware as well, we still recommend you to rub it with a piece of cloth.
- **Water or rubbing alcohol** – You may moisten a piece of cloth a bit with some water or rubbing alcohol and rub it on the computer. Unknown solvents may be harmful to the plastics parts.
- **Vacuum cleaner** - Absorb the dust, dirt, hair, cigarette particles, and other particles out of a computer can be one of the best methods of cleaning a computer. Over time these items can restrict the airflow in a computer and cause circuitry to corrode.

- **Cotton swabs** - Cotton swaps moistened with rubbing alcohol or water are excellent tools for wiping hard to reach areas in your keyboard, mouse, and other locations.
- **Foam swabs** - Whenever possible it is better to use lint free swabs such as foam swabs.

Note:

We strongly recommended that you should shut down the system before you start to clean any single components.

Please follow the steps below.

1. Close all application programs.
2. Close operating software.
3. Turn off power switch
4. Remove all device
5. Pull out power cable

A.3 Scrap Computer Recycling

If the computer equipments need the maintenance or are beyond repair, we strongly recommended that you should inform us as soon as possible for the suitable solution. For the computers that are no longer useful or work well, please contact with worldwide distributors for recycling.

The worldwide distributors show on the following website:

http://www.onyx-healthcare.com.tw/Contact.php

Note:

Follow the national requirement to dispose unit